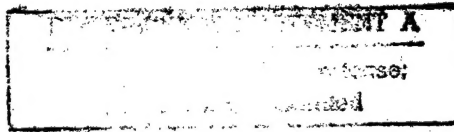


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27 September 1982



# Worldwide Report

ENVIRONMENTAL QUALITY

No. 370

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27 September 1982

WORLDWIDE REPORT  
ENVIRONMENTAL QUALITY

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LAW ON ENVIRONMENTAL MANAGEMENT TAKES EFFECT

Jakarta HARIAN UMUM AB in Indonesian 17 Jul 82 p 4

[Excerpts] Destroyers of the environment, beware! Intentionally damaging or polluting the environment is a felony, punishable by up to 10 years in prison, and/or a fine of 100 million rupiahs.

Damaging or polluting the environment through negligence is a misdemeanor, which could mean a year in prison and/or a fine of 1 million rupiahs.

These provisions are part of the Law on Environmental Management, which took effect on 11 March 1982.

On the national level, Indonesia has taken two significant steps since 1978. In 1978, President Soeharto established the office of Minister of State for Development and Environmental Control. Before that, environmental problems were handled at the sub-ministerial level, at second and third echelon. Now, there is a member of the cabinet who is responsible for coordinating projects which relate to environmental problems.

At the end of February 1982, Parliament passed draft legislation concerning the environment. President Soeharto signed them less than two weeks later.

The new law has five points: principles and objectives; measures for dealing with those who destroy or pollute the environment; management of the environment; responsibilities for protecting and managing the environment; and the aspects of benefit to international life.

Minister of State for Development and Environmental Control Emil Salim said the regulations which he will enforce stress matters which will support and accelerate development.

This law outlines the rights and responsibilities of everyone involved in managing the environment. Also, every businessman must insure continued environmental balance and harmony in carrying out development.

One article of the law calls for people's self-help institutions to take an active part in managing the environment.

Twenty such institutions (formerly known as non-government organizations) which constitute the (Wahana) Indonesian Environment, made suggestions to a special Parliamentary committee which was studying the law when it was still in draft form.

Erna Witoelar, secretary of Wahana, at first criticized the failure to clarify procedures for compelling polluters to compensate victims. The chairman of the special committee said he hoped the government would promulgate regulations to deal with this problem.

"Hopefully, the new law will serve as an umbrella for all kinds of environmental legislation," said Imam Soedarwo, chairman of the committee.

Indonesia has three laws dealing with natural resources: the agrarian law of 1960; the forestry law of 1967; and the mining law of 1967. But these laws often cause disputes between government departments responsible for administering the respective laws.

The agrarian law is administered by the Department of Home Affairs; the forestry law by the Department of Agriculture; and the mining law by the Department of Mining and Energy.

As a result, conflicts of interest hamper enforcement of the laws. Forestry is a good example. Indonesia has 122.2 million hectares of various types of forest. This is larger than the combined areas of Burma, Bhutan, Thailand, and Taiwan. The extent of Indonesia's forested areas causes problems in supervising unauthorized woodcutting.

Another major problem is the right of logging companies to work land earmarked for mining or residential use. Such cases are encountered in Sumatra and Kalimantan.

The problems faced by the three laws may complicate government efforts to enforce the new environmental law. But there is one advantage in the new law. It is concise, clear, and easy to understand. This is a departure from the complicated language often found in laws.

The law's drafters consulted experts from the Center for Construction and Development Language of the Department of Education and Culture. The intent was that the law could be easily understood, and could be disseminated as widely as possible. President Soeharto particularly wanted this done. The law is a simple but firm declaration: "Everyone has the right to a safe and healthy environment."

9197

CSO: 5000/8014

## BRIEFS

PROTECTION OF ENVIRONMENT--A draft ordinance is being prepared for the protection of environment, with particular reference to Karachi. It would eventually be applicable to the whole of Sind. The proposed ordinance is part of the measures being taken by the Karachi Development Authority for effective environmental control in Karachi. Other measures include improving sanitary conditions in the low-income areas and to design and develop low-cost waste water treatment system in new human settlement schemes of KDA. Official sources told PPI on Friday that urbanisation in Karachi was aggravating pollution problems. Moreover, there was a lack of accurate information and data to ascertain the true dimensions of pollution problems in Karachi. But whatever information was available from the studies conducted, clearly indicated that Karachi was at the threshold of an urban crisis, the sources said. To check air pollution, caused by vehicles, all operators of smoke-emitting vehicles had been advised to get their vehicles repaired. Strict action had been envisaged against the operators of smoke-emitting vehicles. The source said various industries, causing air pollution, had been advised to take remedial measures in this regard. Legislation was being made against oil spills by ships in Karachi harbour. Studies were also being undertaken to control marine pollution, the sources added. [Karachi DAWN in English 21 Aug 82 p 8]

CSO: 5000/5814

## THAILAND

### BRIEFS

PESTICIDES POISONING--More than a million people in Thailand are suffering from one form or another of poisoning caused by unregulated use of pesticides, Dr Prayun Dima, head of the division of toxic substances, Ministry of Agriculture, said yesterday. He said he believed that even that figure was low because more than 30 million Thais were involved in agriculture and farmers tended to shower their crops with pesticides without wearing protective clothing or using other forms of protection. The poisons affect the farmers more than the people who eventually consume them through grains, fruits and vegetables, Dr Prayun said. Many of them suffer from respiratory and abdominal diseases as a result. Some die. [Excerpt] [Bangkok BANGKOK POST in English 5 Jun 82 p 20 BK]

CSO: 5000/5818

## BARBADOS

### BRIEFS

BEACH EROSION--A glaring example of what can happen when man interferes with the natural processes of the environment can be found at the Crane Beach in St Philip. This beach, once a haven for picnickers and other funlovers is now in a state of total collapse. And why? Well, according to the evidence in findings by a beach morphologist who was investigating ways in which the erosion problem could be tackled, it all started following the building of the road leading down to the beach. There was a time when people could walk from the centuries-old Crane Beach Hotel for miles along the white sand. Now, this cannot be done since the water's edge reaches as far as the road, part of which has been broken as a result of the action by the sea. One visitor who has been coming here for six years as a guest of the Crane Beach Hotel said that it was felt that the pool of another hotel property about half mile from the Crane Beach would soon disappear. [Text] [Bridgetown ADVOCATE-NEWS in English 18 Aug 82 p 9]

CSO: 5000/7565

# GOVERNMENT MOVES TO PROBE CRUISE SHIP SOOT POLLUTION

Hamilton THE ROYAL GAZETTE in English 11 Aug 82 p 1

[Text]

Department of Agriculture and Fisheries officers plan to investigate complaints of air pollution in St. George's following allegations of soot emissions from the cruise ship Volendam.

Dr. Idwal Hughes, Department director, confirmed yesterday that the classic symptom of air pollution — sulphur dioxide — had been found on plants in the Bridge House Art and Craft Shop in King's Square, close to the Volendam's Ordnance Island dock.

"We will have a look round the general area of St. George's and see whether the problem is localised or more widespread," said Dr. Hughes.

Although tests on the King's Square shop's plants showed traces of soot, Dr. Hughes could not confirm that the Volendam was the source of the pollution.

"We cannot say where the pollution came from," he said. "It appears to be an acute, one-shot deal and there is no chronic problem. It could be soot or it could be vapour levels."

Dr. Hughes added that it

would be "wrong to jump to conclusions" over pollution dangers to water supplies.

"If you get acid rain it could affect, it but the dilution is huge. What effect these random occurrences have would be slight if any at all.

"Plants are particularly sensitive. They require certain conditions and if the levels of sulphur are higher than they are comfortable with, then they exhibit symptoms."

Emissions from the cruise ship have been a long-standing beef for St. George's residents who have regularly complained that their homes and businesses have been smothered with black soot.

Earlier this week some residents aired fears that the soot may have settled in their water tanks and Mrs. Jill Raine, who runs the Bridge House Art and Craft Shop, called in officials to examine plants discoloured by soot.

CONCERN OVER POLLUTION OF SAN PEDRO RIVER

Quito EL COMERCIO in Spanish 20 Aug 82 p A 10

[Article: "The San Pedro River is Polluted"]

[Text] Inhabitants of the town of San Rafael have reported that the San Pedro River, which surrounds the sector, is polluted with the refuse that is dumped daily by the municipal garbage trucks from the Quito canton as much as from the Ruminahui canton.

Seriously worried by the proliferation of rats, flies and mosquitos, several citizens have complained to the Eundacion Natura.

They say that in the last 4 years the refuse collection and disposal companies of these two cantons, which serve the surrounding sectors of San Rafael, Sangolqui and Conocoto, have dumped into the almost dry bed of the San Pedro River tons of rubbish, whose decay is seriously endangering the health of the residents of this beautiful zone, which is considered the satellite citadel of the capital.

The problem of pollution is so much greater when it has resulted in a health threat for the "garbage pickers," persons of meager resources who, in their search for useful items, expose themselves to contracting terrible sicknesses in their daily contact with the rubbish dump.

Committees of residents from San Rafael and neighboring sectors have asked the cantonal authorities of Quito and Ruminahui for an immediate solution to this center of infection that the San Pedro River has become. But the answer has been negative.

In the face of this situation, the inhabitants are asking for the cooperation of the media to succeed in the authorities and obtaining the support of the citizenry in general so that the very inadvisable methods that are used at the present time to dump garbage will be changed, since with these methods it is not surprising that the appearance of epidemics is assisted, especially during the summer season.

One of the systems recommended is the recycling of the rubbish, as is being done in many countries. The Fundacion Natura suggests better planning of garbage elimination; the present method of "throwing out" the garbage into the water of rivers is nothing but transferring the problem to other locations by polluting the environment, and with it, food, persons and animals.

OIL SPILL CLEANUP, MONITORING PROGRAM ESTABLISHED

Cairo AL-AKHBAR in Arabic 5 Aug 82 p 6

[Article by Khalid Jabr: "Cleaning of Suez and Red Sea Coast Begun by Air and Marine Fleet to Protect the Shores"]

[Text] An extensive meeting was held today at the Ministry of Petroleum to discuss the contamination problem of the Gulf of Suez and Red Sea Coast. It was chaired by Engineer Ahmad 'Izz-al-Din Hilal, deputy prime minister and minister of petroleum, and it was attended by experts from the Ministry of Petroleum and commission.

Following the meeting there will be a field visit to the area day after tomorrow for a period of 2 days to determine the steps which will be taken to deal with pollution of the coast and remove the oil which threatens navigation, fishing and tourism in the Red Sea area.

Engineer Ahmad 'Izz-al-Din Hilal stated that the ministries of petroleum and defense are studying setting up an air and marine fleet to monitor the Egyptian coast in the Red Sea and the Mediterranean Sea and to protect them from the threat of oil pollution.

The Ministry of Petroleum will fund the setup of this fleet. It has actually set aside 10 million pounds initially. The Ministry of Defense will participate in managing it, because the governorates are not able to do this job. The new agency will apply all international laws which are in force within the framework of guarding against pollution.

The reason for the delay in gaining control over the recent accident is that the governorate does not have sufficient funds to fight it. Also, neither the Egyptian Petroleum Commission nor the Egyptian company which was loading the tanker has taken the initiative which is appropriate to the importance of the incident, in spite of the fact that this is the first accident for a 17-year-old company which has loaded 500 supertankers.

The situation will be brought under control and removal will be completed in about a month. The removal operation will cost about \$1 million. It will be done by a French company under the supervision of an international expert.

One of the pipes which was delivering crude oil from the shore to one of the tankers at sea was ruptured three months ago. The break lasted for 15 minutes, until it was repaired. During this time, about 2500 tons of petroleum leaked out. This resulted in contaminating the water and a large oil slick spread to the Suez and Red Sea shores.

9605

CSO: 5000/5026

## NATIONAL FORESTS THREATENED BY POLLUTION, OTHER PROBLEMS

Jerusalem THE ISREAL ECONOMIST in English Jul 82 p 21

[Article by Paul Hirschhorn]

[Text]

"If the present landscape degrading processes proceed unhampered, only a few spots of open, unspoiled landscape with natural ecosystems will remain in the small areas protected as natural parks and reserves. Surrounded by an ugly man-made rock desert of dereliction and despoilation, these will also very soon be turned into overcrowded outdoor recreation slums, like the crowded beaches of the Mediterranean," says Prof. Zev Naveh, head of the Technion team studying the problem.

Such mountainous and hilly uplands — too steep or rocky for profitable cultivation — make up about 50 per cent of Israel's total area in the Mediterranean coastal region. These wildlands are generally covered by depleted shrub, dwarfshrub, and woodland communities of low economic value, which are in advanced stages of deterioration.

"There is an urgent need for new approaches in which the conservation and reconstitution of these ecosystems can be reconciled with socioeconomic development," says Naveh.

Until recently, the only efficient means of reclaiming these uplands has been the planting of dense pine forests.

"The Jewish National Fund's Forest Division has been highly successful in establishing these pine forests, even in the harshest conditions. Their rapid ear-

ly development has given the mistaken impression that we can 'fool nature' by creating closed, relatively long-lived, productive conifer forests like those in subalpine climates in Europe," says Naveh. "However, in forests aged 40-50 years there are alarming signs of early decline, and the future production of even younger stands is severely threatened by the combined impact of air pollution and pest infestation."

"As our recent studies have revealed, photochemical smog, mostly ozone, created in the densely populated coastal region by motorized traffic and increasing year to year, is causing widespread damage to pine trees, which are very sensitive. The first, most severe cases of decline and mortality occurred in the Sha'ar Hagai Forest. This is located in the canyon leading from the Judean plains to Jerusalem, through which polluted air masses from the Tel Aviv region are channelled upslope. In recent years, similar typical symptoms of ozone damage have been found in all pine forests in northern and central Israel," says Naveh. "It would therefore be dangerous to rely on these species for future afforestation projects, or even to attempt to replace the dying trees with the same species, as was done in the Sha'ar Hagai Forest."

"These uplands are the only remaining refuge for a wide variety of plant and animal species

and ecotypes — their loss would be final and irrevocable," says Naveh.

"The aim of our studies is to find practical multiple-land-use patterns, especially for the rehabilitation of degraded uplands by environmental landscaping and afforestation with suitable plants, and by attempting to accommodate the richness of this landscape, which cannot be measured in terms of money, to workable planning and management schemes," says Naveh. "We want to integrate the beautification of our countryside with its commercial uses."

For this purpose, Technion ecologists have tested a great number of local and exotic shrubs and trees which are resistant to drought and limestone, but less vulnerable to fire and air pollution than the pines. They also seek candidates of greater overall multiple-use benefit. This study is being carried out in close cooperation with the Jewish National Fund's Forest Division in five denuded hillsides whose soil is typical of the shallowest and rockiest soils of northern Israel. All these plants were established and are being maintained in identical groups of ten to twenty seedlings, with a minimum of care and without irrigation, using methods, similar to those employed in pine afforestation.

Among the plants being studied are:

- fast-growing, soil protecting, low-cover plants;
- slower-growing but taller, more shade tolerant, evergreen shrubs;
- slow-growing but persistent, shade spending ornamental and fodder trees.

"It is still too early for final conclusions, but there are already a considerable number of highly promising plants which could replace inferior, naturally growing species," says Naveh. ■

## EFFORTS TO IMPROVE WATER RESOURCES MANAGEMENT OUTLINED

Tunis LA PRESSE DE TUNISIE in French 8 Aug 82 p 2

[Article by N. Querghi: "Stop Waste! Establishment of a National Tunisian Committee To Sensitize Public Opinion to Save Water"]

[Text] In the framework of the UNDP [UN Development Program] for improved management of water resources in the countries of the Maghreb (Tunisia, Algeria, Morocco) a National Tunisian Committee has been established with the task of sensitizing public opinion to save water and therefore to fight against waste and of developing an action program in this direction.

A preliminary campaign for the sensitization of public opinion will be undertaken. These efforts will be expanded over a period of 10 months to establish the bases for an education program on the consumption of water and to obtain the maximum benefit from this resource.

In fact, as Tunisia is located in a semiarid climatic zone, it has become important to develop water-use plans, over the short and long term, and to know how to manage the crisis. As it is also known that Tunisia is very sensitive to the effects of drought (limited reliability of rainfall), we have to adapt our way of life to the existing climatic constraints.

Furthermore, with the steadily growing increase in domestic consumption but also in view of the development of industry and irrigated agricultural areas, we will find ourselves, between now and the year 2000, faced with enormous difficulties. It is in this context that the newly established committee held a meeting on Friday [7 August] at the Ministry of Information, as a kind of reflection on the water problem and the future prospects.

In the course of this first meeting, in which the responsible officials of SONEDE [National Water Exploitation and Distribution Co] and officials of the ministries of agriculture and information took part, various questions were considered relating to the country's resources, consumption, and needs.

### Imbalance Between East and West

The water problem in Tunisia is part of the structure of the country. In effect, water resources exist in the western part of the country, which has sufficient rain, while demand is strongest in the eastern part of the country, that is,

in the coastal regions which are short of water. Thus, there is a regional imbalance, since the most heavily populated regions (the coastal regions), where industrial activity is concentrated, do not have enough water.

On the eve of the implementation of the Sixth National Plan, 62 percent of our water resources can be exploited, or 1.86 trillion  $m^3$  per year (surface and underground water). Total water resources are estimated at 3 trillion  $m^3$  per year. By the end of the Sixth National Plan exploitable water resources will reach the level of 2,315,000,000,000  $m^3$  per year, or 75 percent of total water resources.

Given the imbalance between water resources and needs, we must now think of constructing new installations even to meet existing needs and to conduct research, if necessary, into new methods of desalination of water and recycling water already used in order to get the maximum benefit from this resource.

On the other hand, requirements for drinking water for all of Tunisia are estimated at 200 million  $m^3$  per year, of which 150 million  $m^3$  per year are already available. At present, the extent of water connections in urban areas is about 75 percent, covering almost 3.5 million people. In the rural areas, this rate falls to 24 percent, covering about 1 million people.

About 2 million rural residents are still not served by the SONEDE system, which is engaged in carrying out a program to cover 4,000 additional localities. Regarding consumption, it is estimated that it is growing by 7 to 8 percent per year (the number of people subscribing to established water networks is growing 15 percent per year). Regarding consumption per capita, it is in the order of 80 liters per day, a rather small amount, compared to average consumption in Europe (more than 400 liters per day), but above the minimum established by the World Health Organization.

Moreover, the consumption of water (600 million  $m^3$  per year) varies from one region to another. Whereas rural regions for the most part remain unconnected to the SONEDE network and therefore do not have locally available drinking water, the consumption of water in these regions is above average, although they are relatively short of surface and underground resources.

The concentration of tourist areas on the coast involves an accentuated consumption of water, which exceeds 400 liters per day per capita.

We should say that the situation is not critical, since, leaving aside some urban areas, SONEDE will be able to meet our needs for drinking water between now and the year 2000 (800 million  $m^3$  per year). However, it is high time to sensitize public opinion, to the extent possible, on the need to limit national consumption of water.

5170

CSO: 5000/5025

REFORESTATION PLAYS ROLE IN FIGHTING SAHEL DROUGHT

Paris LE MONDE in French 10, 11, 12 Aug 82

[Article by Jacques Grall: "The Sahel: After the Great Drought"]

[10 Aug 82 pp 1, 22]

[Text] I. The Foresters of the Desert

It is 1973--the drought is 6 years old. It has caused 50,000 to 100,000 victims, maybe more, in the Sahel. How is it possible to tell in these countries in which the fragility of the statistics is at least equal to that of the soil. In the last year alone, one-fourth of the livestock perished. The animals had begun dying of starvation in early 1969. A stream of food aid and development projects flowed into the Sahel countries starting in 1974--hasty and uncoordinated, as required by the emergency, a "never again" situation. 1982--the drought has not ended. It still exists in some parts. Food production has risen less rapidly than the population. Deforestation continues. But efforts are evident. We observed them in Niger.

On one side of the road, millet grows in green clumps scattered over white ground. A few millimeters of rain were all that was needed. On the other side there is sand, which sometimes invades the road. Then there is a forest, thousands of eucalyptus trees, in columns as though they were on parade, watered at their base by a drip system. Is this the Sahel? We expected the desert. In our European mind, we had imagined a cracked land with dying animals. And then here is a plantation irrigated with water drawn by two huge motor-driven pumps from the Niger River, flowing idly by an ocher bank.

Here in Namarde-Goungou, not far from Niamey, the World Bank has launched an intensive forestation project covering more than 100 hectares. The goal: to provide five percent of the wood consumption of the capital's inhabitants. One-fourth of production will be used to make posts for construction purposes in order to reduce the destruction of planted cuttings, which take several dozen years to resemble a tree. Trees will be cut here every 3 years.

The rest of the wood will be sold for heating. The experts have estimated that one hectare of eucalyptus trees, as a result of slowing the removal of

other trees, will make it possible to indirectly protect 10 hectares of local species. The experts have planned on productivity of 30 steres per hectare per year and made an estimate of the cost of investment. This cost has been exceeded and amounts to 2 million CFA francs\* per hectare, which, for the time being, provides only 10 steres annually ....

Operating expenses have also been exceeded: 100,000 CFA francs per hectare, with part of the additional cost resulting from the oversized pumping station.

But the project's profitability appears assured. Everything will depend on the sale prices of posts (today between 1,500 and 2,000 CFA francs) and wood, prices on which the government can speculate to adjust consumption. Niger's foresters, quite proud of their huge plantations, took the time to tell the truth. "This project is too costly." "We were forced to return to common sense." And the minister of rural development himself stated: "The lessons of the World Bank's project must be learned. Reforestation must be carried out by the population according to their needs."

Over the Kennedy Bridge stretching across the Niger River, opposite the proud Independence Square, an endless line of dromedaries carries back the city residents' daily wood supply. In the setting sun, with the reflection on the water, what a colorful scene for a pictorial photographer. But the loads rocking slowly to the step of the indifferent animals are an image of death. Niamey's woodcutters travel as far as 70 km to find wood. Each dromedary carries 1 stere and a stere is worth 3,000 CFA francs. "The cost of heating is often higher than the cost of food."

#### The Darling of the FAO

There are no other energy sources. And if estimates of needs vary--2 to 5 hectares needed per inhabitant--one certainty remains: that Niger's 14 million hectares of "forest" will not be enough for the country's 5.8 million inhabitants. The growth of the cities adds to the pressure on the forests: 10,000 residents means deforestation over a 15-km radius, a small desert. Niamey had 100,000 residents before the drought and 225,000 in 1977.

When asked "How much longer will wood reserves make it possible to hold out?", the young director of the program for planning and soil use was somewhat exasperated: "I don't know, but if nothing is done, this will be a disaster. Some people say that the Sahel is turning to desert, while others say that the Sahel is pushing into the desert. We are taking an inventory of long-term natural resources and an inventory of needs, and we are launching pilot sites where the population and forest rangers will be shown examples to follow."

The idea of forest planning dates back to the post-drought period and "spontaneous" failures. "The Green Sahel operation, or a green wall from Khartoum to Dakar, is a utopian idea. We are witnessing the emergence of a new Sahel, a slightly wiser trend of conserving what remains."

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\*1 CFA franc = 0.02 French francs.

The World Bank and the foresters of the Republic of Niger have gone ahead with "dry" planting experiments. The cost of investment seems more reasonable: 2,000 CFA francs per hectare, 10 times less than with irrigation, and 70,000 CFA francs for annual maintenance. But yields are also smaller: 30 steres per hectare over 8 years. But plantations such as those of Birni Nkonni, planned over 140 hectares, are especially valuable as an example for motivating villagers to plant trees. Minioperations, mass forestry, also called social forestry, have become "the darling of the FAO," we were told. But it is meeting with mixed success in the villages.

A nursery of margosas and prosapis, imported hardy tree species, has been planted next to the reservoir of a large hydroagricultural development complex. The farmers who agreed to carry out the work of replanting, in order to establish an area for crop protection, have apparently not responded to the call. The use of "penal labor" is being considered. In this sector, in which irrigation facilitates the production of cash crops, the effect of reforestation is not visible. Farmers have the impression that they are working "for the government."

#### Mystical Forest

On the other hand, at Bouza in the department of Tahoua, a first in the annals of Sahelian forestry has been achieved with the planting, by individuals, of several hectares for the production of firewood. The revenue per hectare will probably be 2 to 3 times more than the income from agriculture.

It is also at Bouza that the green ring around the city has been undertaken. Started in 1974, it will surround the city at the rate of 1 hectare per year by 1988. In addition to wood, these green belts also provide shade and wind protection. Here and there it is not unusual to see young trees in the streets or on the market squares of cities and villages drenched in sunshine.

"A source of water, empty plastic pots, seeds of local species chosen by the population, such as baobab and tamarind, which are tending to disappear, an old woman to water them, minimal training for foresters": There you have a small village nursery, thousands of which the Nigerien Government would like to see financed. The movement is underway. Will it move faster than the wood burns?

Nigerien officials are doggedly trying to make the tree a national symbol! Tree Day, 3 August, whose creation dates back to the 1920's, has been restored to honorable status since the advent of the new government, even becoming the key feature of ceremonies commemorating independence.

This is because the tree, still the only source of energy despite timid attempts at coal distribution and solar energy research, represents even more: besides these ecological functions, it also has social and economic functions: food security through food gathering, maintenance of fauna and a natural pharmacopoeia (isn't it said that among its numerous virtues, the crushed leaf of the margosa tree can be used as a food preservative?) and maintenance of cultural capital, a sacred and mysterious forest.

But if all of that is true, then how is it possible to understand deforestation and the problems which the Sahel's inhabitants are having in becoming convinced of the need for replanting? The consequences of deforestation have been analyzed, as well as its immediate causes. But what are the underlying reasons for the lack of forest maintenance?

[11 Aug 82 p 17]

[Text] II. When the Dunes Turn Green Again

The Sahel, whose future was greatly in doubt in 1973, continues to exist with difficulty, even though the effects of the devastating great drought are being felt less. One of the problems has to do with reforestation, since trees are still the sole source of energy (LE MONDE of 10 August), but efforts must also be made to use water in the best possible way, to irrigate under the best conditions, in order to ultimately provide enough food for livestock.

Water exists in the Sahel. It must be tamed and taught to remain prudent and discreet. Vegetation breaks the speed of water, reduces soil erosion, favors the accumulation of groundwater and helps to maintain temporary ponds. But water, which brings life, also brings about the desert: the concentration of people and overgrazing around a well cause the death of the soil. In Niger, the Sahel is divided into four zones; the one receiving less than 150 mm of water annually is desert or quasi-desert. It covers two-thirds of the territory (1.267 million square km, or just under 2.5 times the size of France). The northern Sahelian zone, which receives between 150 and 350 mm of water, is devoted to livestock breeding. Further south is the zone of dry plantings, which receives from 350 to 600 mm of water. Finally, on the borders of Nigeria, Benin and Upper Volta, rainfall is more abundant (600 to 800 mm) and makes possible the growth of denser forests.

So much for the scenery. It is a fragile setting, because the isohyets change and the balances of a lifestyle suited to natural conditions, nomadic livestock breeding in one area and itinerant farming in another, are precarious. On the way out of Niamey, at the Aghrymet research center, an agency of the CILSS (Permanent Interstate Committee for Drought Control in the Sahel), a table lists rainfall, 24.3 mm in the first 16 days of June, as well as the evaporation, 138.6 mm during the same period. The rainy season (from June to September) begins gently. If it arrives too early, sometimes in April, the millet grows rapidly and then burns in the still scorching sun. The stalks are only 10 cm high instead of 30 cm. If it arrives too late, the fodder and grain reserves are depleted during a long 8-month dry season. In this month of June 1982, the millet is late. Insufficient rainfall for the year is feared.

Delicate balance of rainfall patterns, fragility of agricultural soil: 85 percent of the population lives south of the 350-mm isohyet. Population density is 20 inhabitants per square km. Sometimes it amounts to 50 or 60 percent. Crops are concentrated in depressions, such as that of Dallo-Bossou, a former bed of a tributary of the Niger River. Today the lands are impoverished

and yields are poorer. The excessively meager agricultural income does not make it possible to buy fertilizer. So there is only animal manure left, when it has not been used for cooking food, for lack of wood.

At Yegalalane, sand dunes as high as buildings surround a prosperous valley where sugar cane, sweet potatoes, henna and manioc are grown. As a result of the harmattan and water runoff, these dunes advance 2 meters in 3 months, threatening the fields which affect 6,000 people. With the financial and technical assistance of CARE [Cooperative for American Relief to Everywhere], an American organization, irrigation and forests have stopped the dunes: the villagers make hedgerows of millet on the tops of the dunes and on the windward slope; grazing is prohibited on the windward part and trees are planted. The result is spectacular: after 1 or 2 years, the dune turns green again. It has stabilized. Forty-five hectares have been worked in 4 years and 12 hectares will be worked in 1982. The population receives supplies in exchange for their work.

In this instance, the problem of the soil's fragility has been solved with a simple technique. Tilling with a plow and a pair of oxen, at first view, does not appear to be a transfer of advanced technology. And yet! Agricultural technicians advise the Sahelian farmers to clear the land of stumps in order to obtain better tillage. The result: when the land lies fallow, nothing holds it down and the desert progresses as a result of the combined effect of wind and plowing.

#### Stopping the Wind

Have you already considered the comparative merits of this or that type of windbreak? In the Caux country or in the Normand bocage, yes. But after leaving a landscape of lunar rocks, when the road merges with ravines on the mountainside and entering an amphitheater of crops covering several thousand hectares, the interest in windbreaks is less common. In fact, it is extremely rare. Since 1975 in this corner of the Majja River valley, 60 km of rows of windbreaks have been planted, protecting about 3,000 hectares. Initially, it was a matter of preventing wind erosion and dryness. In the small village of Garadoume, the farmers planted as many as 5 to 10 times per season: the wind scorched the shoots. Unexpected results are being noted today: plant fertility and the humidity are improving. Monitored over 5 years, production has risen by 25 to 30 percent. And then there is also recoverable firewood following maintenance of the curtain of trees. The delicate question of its distribution has arisen. There is the village cooperative, of course, which will decide the sale price based on needs and incomes. At least this is what the authorities want. But the problem is quite new and not resolved. As in the case of the planting of the windbreaks themselves, many meetings will be needed with farmers, the very ones who chased away a colleague of the CARE representative, who had advanced the preposterous idea of stopping the wind.

Another way of overcoming soil fragility: irrigation. According to some sources, the irrigable-land capital is probably 200,000 to 300,000 hectares, half of which will be irrigated from the Niger River. Six thousand hectares are being managed today. On the Majja River as well, the Nkonni project is

not small; 3,000 hectares, with 1,500 hectares under irrigation, should make it possible to provide two harvests: one in the winter, over the entire area, and the other in the dry season, over only half the area. Sorghum and cotton are recommended for the first harvest, with cotton being used to pay for maintenance expenses and to supply local industries. Wheat, niebe, corn and potatoes will then be grown for the second harvest. The cost of the operation is not bad either and there are some businesses of developed countries for which the development credits are a windfall. Total estimate for the 3,000 hectares: 8 billion CFA francs. For the two dams, one built at Zongo in 1975 and the other at Mozague in 1980: 2 billion CFA francs, or 40 million French francs. The dike of the largest dam (a reservoir of 35 million cubic meters) measures 12 meters high and 600 meters wide.

### Too Expensive and Too Fragile

North of Agadez at Indoudou, a pile of unused pipe cooks in the sun. In this station for the production of ameliorative seeds, German and Nigerien technicians have abandoned drop-by-drop irrigation methods using motor-driven pumps. Too expensive and too fragile, nor can it be moved for surrounding truck farmers. Yes, truck farmers who grow lettuce, melons, tomatoes and carrots in a quasi-desert! A little water is all that is needed. In an experimental station at Indoudou, they have returned to traditional methods: oxen for drawing water, using a clever "automatic" bag which closes full of water when the animal moves forward and empties into a hollow tree trunk when it stops; irrigation by gravity, using earthen canals which can be opened or filled at will: all that is needed is a clump of earth and the equivalent of a spade. The water which seeps out is not lost either, since also according to tradition, the oasis farmers grow both date palms and vegetables.

Then is irrigation "the" solution to achieving food self-sufficiency? Some people think so and advocate speeding up the programs. But I raise the question of the maintenance of irrigated lands and the use of these techniques, since all farmers are not in the habit of using them. Throughout the Sahel, the use of 5,000 hectares of land only slightly exceeds the amount of land not in use ....

### The Grass Isn't Greener Elsewhere

Like the other states of the Sahel, Niger is a large livestock breeding country. The grazing area (235,000 square km) handles one-half of the breeders, while the others move around in the farming zone. Thus there are disputes over the land, which are sometimes settled violently. Before the drought, there were 4.2 million heads of cattle and 8 million heads of sheep-goats. The pressure on the soil and fodder resources was already great. After the six terrible years, half of the livestock was destroyed. In 1982, the Nigerien herd is almost reconstituted: between 3.2 and 3.6 million cattle and from 8 to 9.6 million sheep and goats. This result has been achieved through vaccination. In the department of Tahoua, for example, 72 percent of the cattle are vaccinated and it is hoped that 95 percent will be. Small ruminants are also vaccinated in the department of Agadez. Thus the pressure on the soil has again become dangerous. These two departments lost between 75 and 95 percent of their animals in 1974.

The government has established several breeding centers, such as that of Ibesten, 90 km north of Tahoua: there are 3,000 head of livestock on 42,000 hectares. There the best heifers are selected and reintroduced into the herds in order to improve the average breeding level. There they experiment with fodder, pasture maintenance techniques and extra food in the dry season (cottonseed and wheat bran were sold at cost price in 1982 and no longer subsidized). In the event of another drought, these centers could accept thousands of animals; combined with new slaughter capabilities, this would prevent the pointless destruction of livestock. But can the balance achieved in this center, between soil, water and animals, be transferred? It is undoubtedly still the most possible of the natural conditions of nomadic livestock breeding, with a little something extra, which is not negligible, since it is not unusual to see animals raised in the centers returning there. The grass isn't greener elsewhere.

#### The T-Shirts of the "Development Company"

Officials are today encouraging breeders to reduce their stock. While understanding the socioeconomic (and not sentimental, as is sometimes rashly said) motivation for building up on-the-hoof stock, it is a matter of convincing breeders that a better fed herd, and thus a smaller one, is economically as valuable as a large herd of emaciated animals. This is not easy, since no breeder likes to sell. To step up the movement, breeders would have to be encouraged to consume producer goods for their animals and consumer goods for themselves, such as transistor radios .... Then in order to distribute pressure better, the specialization of zones is being considered: breeding in pasture zones and raising and fattening in agricultural areas, which would send grain to the north in exchange. This plan, described as positive for "national integration," greatly resembles the division of labor adopted for livestock breeding in European countries. Have the induced effects been considered, in particular the cost of feed and transportation?

And goats? They were vainly banned in Senegal. These overgrazers are also the purse of the African housewife. To encourage them to reduce their stock, it would also be necessary in this case to raise prices.

At the Ibesten center, officials of the pasture management program have "put all the emphasis on human factors," worrying more about the problems of breeders than about livestock breeding. They are studying the behavior of family units, the movements of the nomads and the trade in animals. For the desired "changes" can result only from making the population aware of the requirements of "development."

In national terms and for the entire country, this translates as the "Nigerien development company," a kind of vast propaganda movement with ministerial and prefectural tours, the establishment of a network of village cooperatives and a village council, and orange T-shirts for the children, with the printed slogan: "Coordination, consultation, participation." But if participation were required by decree, would it be military?

[12 Aug 82 p 22]

[Text] III. A Production Contract

Wood and water are the precious goods which people are arguing over in the Sahel (LE MONDE of 10 and 11 August), that region which caused so much talk at the time of the great drought of 1973. Developed countries have increased their assistance. But such aid can sometimes be the cause of instability if it is not used wisely.

There was instability in the Sahel before the great drought. Population pressure has since increased, by approximately 2.5 percent annually, along with the accompanying overgrazing and deforestation. According to the Nigerien minister of rural development, "whether production stagnates or picks up again, this is already a success." For all of the countries in question, there is no short-term solution. As Mr Georges Bourgoignie of the Sahel Club\* neatly put it, "a production contract between the international community and the Sahel" is needed.

In the view of developed countries, the Sahel is a success. In 1979, public aid for development came to \$40 per capita for member countries of the CILSS,\*\* compared with \$19 per capita for the rest of Africa and \$8 in the case of Asia. This public assistance, which represents 90 percent of Sahel countries' foreign financial resources, amounted to nearly \$7.5 billion between 1975 and 1980. Among the principal donors, France ranks first with 19 percent, followed by the European Development Fund with 12.7 percent, the FRG with 8.7 percent, the United States with 8.2 percent, the World Bank with 8.2 percent and Saudi Arabia with 7 percent.

The use of these funds is instructive. The category receiving the most money: infrastructures, at 19.7 percent. People were so struck by the problems encountered in distributing aid in 1973 that road projects blossomed. To such an extent that the Sahel Club, whose mission this is, had to meet with donors and show them a map of the road sections which were getting in urgent need of repair. Today people are wondering whether one-fifth of aid for infrastructures represents a good priority. Priorities will have to be adjusted before "the Sahel becomes a desert, with concrete roads and no one to travel them."

The category receiving the second-largest amount of funds, absorbing 13.7 percent of aid, is actually the emergency fund for government operations: support for the balance of payments and budget support. These unsecured investments are the price of relative stability and security as well. Their scope,

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\*An informal association of donors' representatives and representatives of decision makers, with headquarters at the OECD in Paris.

\*\*The Permanent Interstate Committee for Drought Control in the Sahel includes the Cape Verde Islands, Chad, Gambia, Mali, Mauritania, Niger, Senegal and Upper Volta.

which continues to increase, throws light on an aspect of Third World aid, that of the responsibility of governments in managing their economies: too many civil servants, prices widely subsidized for consumers, massive imports which destabilize weak local production, unproductive savings, paralyzed private investments and large bankrupt bureaucratic projects do not result in the production of wealth. Secondly, how many development projects no longer contribute anything because they involve endless operational costs and expenses (recurrent costs) not covered by donors and for which the governments cannot pay.

Together with food aid (10.3 percent) and technical assistance (18.1 percent), this operational aid is part of the category of so-called outside-project aid, whose increase means "a deterioration of the economic and financial situation of Sahel governments," according to Mr Bourgoignie. In the case of programs for food self-sufficiency and to combat desertification, the percentages are lower: rainfall crops, 8 percent; irrigated crops, 9.5 percent; livestock breeding, 5 percent; fishing, 1.5 percent; and finally reforestation, 1.4 percent. But the Sahel Club's representative notes: "Of \$100 million committed to rainfall-crop projects, one-fourth concerns food crops and three-fourths export crops." Concerning funds for reforestation, he adds: "It is little, but more than before, for they have risen 71 percent in 1 year. The donors and decision makers (the Sahel governments) were not sufficiently aware of the geometric deterioration of the forest."

The risk for Sahel governments, besides their own responsibility, is probably that the developed countries' interest in them might decline. It is apparently the disorderly pressure of public opinion which, since 1973, has motivated the "wealthy" countries to donate assistance and then to organize the struggle for survival with Sahel leaders. The poor results obtained will perhaps prompt donors to redirect their aid and, in that case, the "production contract" has little chance of being fulfilled. They will no doubt want to exert further control over outside-project aid and thus require unacceptable structural changes by the African governments. Such changes are unacceptable because there will be "interference" and because the permanence of the "established governments" would not be assured as a result of the sociopolitical effects of these changes.

If another risk factor were to be added to the already long list of the Sahel's weaknesses, it would be that of maintaining the level of international aid.

Since 1974, of course, the Sahel has not had any major crises and the goal of the CILSS nations is still food self-sufficiency by the year 2000, which means doubling vegetable and animal production. But how can this race be won when the elements of "progress" are themselves becoming sources of instability: too much animal pressure and too much population pressure.

To overcome the danger, the Sahelian formerly had a way out, but only one: movement.

Rotational movement of cultivated lands to prevent exhaustion; transhumant movement of animals from one source of water to another; and movement of the village as well. The drilling of wells has limited transhumance and has favored overgrazing. Mineral deficiencies are turning up in animals which no longer

follow a "salty diet." Human beings, who cause desertification by cutting more and more timber, are still not protected against illnesses by becoming neosettlers: the "fecal peril," as the experts call it, lies in wait for them.

Finally, wouldn't people's greatest responsibility for desertification lie in becoming settled, in the absence of movement gradually being imposed by the more and more rigid structures of administrations and governments (what do the borders of Niger or Mali mean to a Peul breeder?), the trend of farmers settling on a piece of land, since the right of ownership, having come from the cities, is slowly but surely penetrating the countryside, where before only the right of usage was known. But in order to have the desire to replant trees for survival, isn't it necessary to consider a permanent habitat? So then, to move or not to move? This time, they are losing. And they would like the people to "participate" ....

11915

CSO: 5000/5801

RUIN THREAT INCREASES AS DROUGHT DRAGS ON

Johannesburg THE CITIZEN in English 3 Sep 82 p 8

[Article by Tim Clarke]

[Text]

UNLESS heavy rains fall soon, farmers in the northern districts of Natal and in the Natal Midlands will face financial ruin.

This was the opinion of many farmers contacted by The Citizen in both areas yesterday.

They said rain was needed within the next two or three weeks to break the three-year-old drought.

The worst-hit areas appear to be Dundee, Vryheid, Newcastle and Utrecht.

Water levels in the Dundee area are the lowest they have been for 20 years and even natural springs have dried up, say farmers in the area.

A spokesman for the Dundee municipality said six dams serving the town are only 15 percent full. He said that unless heavy rains fell soon, drastic water

restrictions will have to be introduced.

Several farmers said it was estimated that northern district farmers owed the Natal Landbou Ko-operasie about R40-million because of the drought.

They said many of them had harvested only about 30 percent of their usual maize crop. This was a meagre 180 000 tons.

The position of many Black farmers in Kwa-Zulu is also desperate. Their average yield is about five bags a hectare. Some of them say their maize yield on average will be only about two bags a hectare.

In the Natal Midlands, many vegetable farmers have been driven off the land because of the prolonged drought. Many of them have already stopped farming temporarily and have taken part-time jobs to keep going.

SOUTH AFRICA

BRIEFS

ZULU DROUGHT CURBS--Durban--The Mtubatuba health committee in Zululand has decided to enforce drastic water restrictions because of the crippling drought in the area. The health committee decided at a meeting this week to impose the restrictions. They include an immediate ban on the use of sprinklers as well as restrictions on the use of hosepipes. These can be used only between 4 pm and 5 pm on Mondays, Wednesdays and Fridays. Several other health committees and town councils in Zululand are also considering water restrictions because of the prolonged drought in the area. [Text] [Johannesburg THE CITIZEN in English 2 Sep 82 p 11]

CSO: 5000/5815

## SHORTAGES HIT WATER PROJECTS

Harare THE HERALD in English 27 Aug 82 p 4

[Text]

WATER will determine the level of Zimbabwe's growth and development in agriculture, industry and mining, the Minister of Water Resources and Development, Cde Cephas Msipa, said in Assembly yesterday.

He assured MPs during the debate on the estimates of expenditure vote for his ministry that every effort would be made to ensure adequate water supplies for the nation.

He hoped very soon to sign an agreement with the Italian government to study research on exploitation of underground water in Nkayi, Lupane and Tsholotsho, which had been hit heavily by the drought.

### BOREHOLES

Cde Msipa said his ministry had cleared many boreholes neglected during the war, but there

were constraints due to shortages of engineers, technicians and equipment.

In response to a question from Mr Des Butler (Rr, Eastern), he said his ministry was making increasing use of local consultants. Overseas consultants were only hired when needed, although some were being employed as part of aid programmes.

### CONSIDERING

His ministry was considering an off-river storage dam at Beltbridge, raising the Antelope and Mwenje dams in the Chiveshe area, a small dam at Mutare, and pending Cabinet approval, raising the Kondo dam.

The minister said 5 500 boreholes had been drilled during the past two years and that 3 000 water pipes had been provided in rural areas.

Answering a question from Mr Arthur Tapson (RF, Makoni) about the drought, Cde Msipa said contingency plans had been applied.

### VACANCIES

He said there were 90 vacancies for both water engineers and technicians.

But, even when filled, there would still be a shortage. Four expatriates had already been recruited and another 20 were being considered.

Cde William Kona (ZAPU, Midlands), wanted to know about cheap and easy ways of providing water. The minister said village water supplies were being planned.

"The old system where our women carry water on their heads for long distances must end," he said.

The vote was accepted.

CSO: 5000/5815

FRG, NORDIC BIOLOGISTS TO START CAMPAIGN TO SAVE BALTIC SEA

Stockholm DAGENS NYHETER in Swedish 4 Aug 82 p 30

[Article by Thomas Lerner: "Biologists Fight for Life in the Baltic"]

[Text] The Baltic is still a very dirty sea. This is the message of the campaign which field biologists from Sweden, Denmark, Finland and West Germany will run next summer.

"It will be a giant activity. The politicians have long talked about the Baltic, but nothing has been done. Now people must be told how things are," says Magdalena Agestam.

She is the chairperson of the country's more than 13,000 field biologists and has great hopes for the "Baltic Sea Action" as the campaign is called.

The idea came originally from Poland, but the Polish equivalent to the field biologist has had great problems since the military coup last year.

"Baltic Sea Action"

"We hope they will join the campaign. So far it is clear that field biologists from Denmark, Sweden, Finland and West Germany will take part," says Fredrik Sjoberg.

He is a member of the national board of field biologists and is responsible for the Swedish role in "Baltic Sea Action."

"The intent of the campaign is to inform about the Baltic still being a very dirty sea and the situation not having improved during recent years," he continues.

If everything works, one boat each from Denmark, Finland, Sweden and West Germany will next summer travel along its own coastline.

"The boats are to visit the harbors and, through meetings and exhibitions, we intend to report what is happening in and around this very important sea," says Fredrik Sjoberg.

## Illegal Dumping

According to the planners, at the end of July the four boats are to convene in Stockholm or Visby. There the campaign will be summarized at an international symposium.

"We are hoping for contributions from the Environmental Bureau, the Agricultural Department and different funds," says Fredrik Sjöberg. "Then we have our own money to spend.

Every year between 30,000 and 60,000 tons of oil are dumped illegally in the Baltic. Not only are sea birds severely affected by these dumpings, on several occasions there have been mass deaths of mussels, crayfish and starfish.

Large amounts of heavy metals (lead, zinc, cadmium and so on) and PCB are also let out into the Baltic. These compounds are deposited in the food chain and cause severe harm to animals and birds at the top of the food pyramid, for example seal and sea eagles.

## Dead Areas

"The Baltic area is very dirty. The largest cities and the largest industries are situated along the coasts. The pollution is also especially clearly noticed here, as the Baltic has a very special character," says Fredrik Sjöberg.

The Baltic is more like an enormous lake than an ordinary sea. The water is brackish; that is, its salt content is between that of fresh and saltwater.

The exchange of water through the Great and the Little Belt is very small, and oxygen deficiency has occurred in many places. Several areas in the Baltic are dead; no life exists there.

"The Baltic must be protected against pollutants. But it is wrong to single out only individual companies and countries as responsible," says Fredrik Sjöberg.

"A cleaner Baltic is everyone's concern, and that is why we want to awaken people through our action. It is only too bad that we do not reach the people in the Eastern countries, because much is dumped from these countries," he continues.

The preparations for "Baltic Sea Action" have already begun. International camps have taken place in Kiel, Västervik and Hailuoto in Finland. At the present time, field biologists from all over Sweden are gathered for 3 days in Hysingevis.

The small rustic town is situated south of Norrtälje, on the road out towards Furusund. A large part of the camp is devoted to the study of the Baltic. "We must learn in order to be able to inform. With this knowledge up our sleeve, we hope to be able to inform properly next summer," concludes Fredrik Sjöberg.

9843

CSO: 5000/2152

## GARBAGE ACCUMULATION POSES HEALTH THREAT

Nicosia HALKIN SESI in Turkish 17 Jul 82 p 2

[Report by Mehmedali Gokdel]

[Text] The health of the people of Nicosia is threatened because of irresponsible acts by the municipal authorities.

Officials of the Nicosia Municipality sometimes give speeches about modern municipal services and say that they are providing all the services expected from a modern municipality.

It seems that while giving advice to the citizens about how a modern municipality should operate, the Nicosia Municipality has come to the conclusion that its services are not modern, and, so, it has stopped providing them.

Sanitary services have begun to be excluded from the list of modern services provided by the Nicosia Municipality, and the people have been left to live in unhealthy conditions in an apparent disregard for the cleanliness of the city.

Examples of this situation can be found around the Nicosia Municipal Market.

Although garbage dumping sites are supposed to be outside the city, the Nicosia Municipality is using a warehouse on Kuyumcular Street, where a lot of foodstuffs are produced and which is located behind the Municipal Market, as a garbage dumping site. It has been learned that the people living in the area are annoyed by the noxious odor of the dumped refuse which also poses a health hazard for the area.

The problem is made all the more serious by the fact that there is a candy factory and an ice cream plant near the garbage warehouse. Health experts we talked to said that the presence of so much refuse near the Municipal Market, where so many foodstuffs are produced and where people buy most of their consumption items, is a public health hazard, that it may cause an epidemic at any time, that food poisoning may occur, that there may even be deaths and that all dumping grounds must be outside the city in order to protect public health and the environment.

Shopkeepers working in the street where the garbage warehouse is located said that they cannot even stay in their shops because of the noxious odor coming from the dumped refuse. They said: "If we cannot be comfortable in our shops, it is

highly unlikely that customers will ever come to our shops."

Meanwhile, citizens we talked to said that the Municipality is not giving the sanitation issue the attention it needs and that the Municipality must enlighten the people about sanitation. The citizens stated, however, that the Municipality does not even issue a statement on Environment Day which is regularly marked every year. The citizens added that the pollution of the environment by the Municipality itself is a shameful situation.

9588

CSO: 5000/5342

FRANCE

# OXYGEN LACK KILLS FISH IN MORBIHAN

Paris LE MATIN in French 9 Aug 82 p 32

[Article by Michel Alleno: "Pollution: Tons of Dead Fish on the Morbihan Coast"]

[Text] Fresh water diverted by a barrier caused reduction of the oxygen content. Perhaps 100 to 150 tons of dead fish were washed ashore in the Vilaine estuary near the boundary between Morbihan and Loire-Atlantique. The Scientific and Technical Institute for Ocean Fishing (ISTPM) still has not released exact figures, but the situation is so troubling that the prefect has set up a crisis command post.

Tons and tons of dead fish have washed up on the coast of Brittany near Damgan-Biliers, Penestin, and Tour du Parc, small seaside communities of southern Morbihan. The situation has become catastrophic in this region, which may have to pay the price for the construction some 10 years ago of a barrier at Arzal across the course of the Vilaine. According to many in the fishing trade, the masses of fresh water held back by this structure are the source of the pollution which occurred recently in the river's estuary. On the other hand, it is a one-time phenomenon on the French coast, according to the scientists, who have an explanation: "The heat associated with calm waters and rain and the absence of wind deprived the water of oxygen at the deeper levels, which favored the proliferation of plankton. And undoubtedly numerous fish were caught in this trap."

More than 150 tons of fish of all species were killed. Some fishermen have even had to abandon their trade. In the immediate future the most pressing problem is cleaning up the beaches with equipment, with the help of a work party of the local citizenry and summer visitors, who at times have to endure a terrible stench as they work.

9828

CSO: 5000/2156

REPORT ASSEMBLES COMPANIES' DATA ON HAZARDOUS WASTE

Stockholm SVENSKA DAGBLADET in Swedish 28 Jul 82 p 7

[Article by Claes Lofgren: "Storage Lacking for 5,750 Tons"]

[Text] Every year Sweden produces hazardous waste equivalent to the cargo in 4,500 of the most common freight cars of the Swedish State railways. No solution exists to how waste equivalent to the cargo of 55 freight cars should be stored.

This is clear from a report recently presented by the Environmental Bureau. The information is founded on statements from companies whose manufacturing produces hazardous waste. Some companies answered inconclusively, some not at all. Thus the numbers are not reliable.

"Companies like BT Kemi would hardly declare on an inquiry from the Environmental Bureau that they have toxic drums buried," says Lars Asplund, manager of waste questions at the bureau.

The toxicity of the waste varies in both amount and concentration. If everything not environmentally dangerous were removed from the waste, close to 1,600 freight cars with "poison" would still remain. This consists of everything from PCB, which can cause sterility in animals, to oil spills, which, even in a relatively small concentrations, can ruin water supplies. Now at last the greater amount is handled in a relatively satisfactory way, say responsible authorities and companies in question.

More than 15 percent is burned in ovens, most of them approved. Almost a quarter is recycled. Some 40 percent is dumped at dumps, deposit plants or exported for final storage. Some 12 percent actually runs out in the sewerage in lawful and secure forms, according to the Environmental Bureau. As many as 7.3 percent of the companies say that they do not know what happens to their waste.

No Solution

For the little more than 1 percent--the 55 freight cars--there is no solution as to how to store the waste, which comes to a total of 5,750 tons. Most of this is waste with heavy metal content (1,900), oil waste (1,000), and chemical waste (1,600).

The counties handle 20 percent. The waste just ends up at the communal dump.

The handling is supervised by boards of health and county administrations. It is also the county administration which has to approve if a company, as a smaller part of its activity, accepts waste from other companies for safe-keeping, recycling or disposal. A third of the hazardous waste is handled by such companies or by companies licensed by the government.

"All in all there are methods to destroy most of the poisons we produce today; that they are not used is thus not a question of technology but a question of economics," says Carl-Axel Hjelte of SAKAB.

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CSO: 5000/2152

END